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RESIDENT RESEARCH ASSOCIATESHIP PROGRAM WITH THE AIR  
FORCE SYSTEMS COMMAND(U) NATIONAL RESEARCH COUNCIL  
WASHINGTON DC R H MANKA 1987 AFOSR-TR-87-1789

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19. ABSTRACT (Continue on reverse if necessary and identify by block number) In addition to reporting on activities specifically sponsored under this contract, we also summarize any other current activities of the Air Force Associateship Program such as the termination of Associates who were sponsored under the previous year's contract. Furthermore, after each review of Air Force applicants, we have supplied a listing of all applicants who have passed the panel review. <i>Keywords: Air Force research; management; awards</i>					
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**NATIONAL RESEARCH COUNCIL**

**Resident Research Associateship Program**

**with the AIR FORCE SYSTEMS COMMAND**

**Annual Report**

**(Required under Contract**

**Nos. F49620-82-C-0027, AFOSR-85-01991R, and F49620-85-C-0124)**

**January 1, 1986, through December 31, 1986**

**We report here on all Associateship Programs for the Air Force Systems Command for the calendar year 1986.**

**In addition to reporting on activities specifically sponsored under this contract, we also summarize any other current activities of the Air Force Associateship Program such as the termination of Associates who were sponsored under the previous year's contract. Furthermore, after each review of Air Force applicants, we have supplied a listing of all applicants who have passed the panel review.**

**PUBLICITY**

**The National Research Council, in cooperation with the Air Force Systems Command, prepared booklets describing opportunities for research in the NRC-AFSC Research Associateship Program. The laboratories participating in the program were sent a total of 550 booklets to be distributed by the research staff to persons interested in the program.**

**In October of 1985, publicity materials concerning the 1986 NRC-AFSC Research Associateship Program were distributed to presidents, graduate deans, thesis advisers, and chairmen of appropriate departments of science and engineering of all academic, degree-granting institutions in the United States. Announcements were also sent to selected public and professional news media for publication.**

**REQUESTS**

**The Associateship Programs Unit sent application packets to 462 individuals for the 1986 NRC-AFSC Associateship Program in response to requests by persons whose fields of specialization appeared to be appropriate for the research opportunities available in the AFSC laboratories.**

### COMPETITION

At the request of the Air Force System Command, the Associateship Programs Unit reviewed applications three times--in February, June, and October--resulting in the following:

#### February 1986 Review

Of the 21 applications received, nine were incomplete. The remaining 12 applications were reviewed by the panel, resulting in 3 that could not be considered for award because of a lack of interest in their proposals by the laboratory, eight that were recommended, and one that was not recommended. Of the eight recommended, six have accepted appointments, one alternate could not be offered an award because of funding, and the offer to the other was administratively deferred (action on this candidate is still pending, although he has indicated that he will submit a revised tenure request, at which time his application will be resolved).

#### June 1986 Review

Of the 16 applications received, one was received by the Associateship Programs Unit after the deadline, three were incomplete, and one was ineligible. The remaining 11 applications were reviewed by the panel: two could not be offered awards because of a lack of interest in their proposals by the lab; and one was not recommended. Of the eight recommended, three have accepted appointments, one declined, one was offered an award and is pending, one could not be offered an award because the program where the candidate has applied to do his research has not been established yet, one could not be offered an award because of space limitation, and the other one is an alternate.

#### October 1986 Review

Of the 19 applications received, two were ineligible, one was deferred to another review, and five were incomplete. The remaining 11 applications were reviewed by the panel and resulted in three that could not be considered for awards because of lack of interest by the lab in their proposals, six recommended, and two non-recommended. Of the six recommended, one has accepted the award, one has been offered an award and is pending, another could not be offered an award because the lab could not accept the applicant, and three are pending until the financial situation has been resolved.

Detailed information on the 1986 panel reviews and candidates recommended for awards were included in our reports of March 24, July 3, and December 2, 1986. Informational copies of these reports are attached to this report.

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ASSOCIATES' ACTIVITIES

Part I includes information on the current results of the 1986 NRC/AFSC Awards Review of the Research Associateship Program.

Part II includes information on the terminated Associates.

Part III includes information on the renewed Associates.

Part IV includes information on the Associates on tenure as of January 1, 1987.

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PART I

CANDIDATES WHO HAVE ACCEPTED AWARDS IN THE 1986 NRC-AFSC  
RESEARCH ASSOCIATESHIP PROGRAM REVIEW

<u>Associates</u>	<u>Advisers</u>	<u>Laboratory</u>	<u>Expected Starting Date</u>
EL-HEWIE, Mohamed F. PARAMETER INVESTIGATION IN LASER SOLID INTERACTION	SIEGENTHALER, Kenneth	FSRL	09/02/86
KATSUYAMA, Ronald M. CEREBRAL HEMISPHERIC PROCESSING IN ADAPTIVE SYSTEMS	WARREN, Rik	AFAMRL	08/26/86
KOUTCHMY, Serge L. OBSERVATION AND ANALYSIS OF THE PHOTOSPHERIC AND INNER CORONAL LAYERS OF THE SUN	KEIL, Stephen L.	<del>AFGL</del> AFGL	01/05/87
MALLAVARAPU, S. IMPURITY-DOMINATED LASER DAMAGE MECHANISM IN DIELECTRIC THIN FILMS	GUENTHER, Arthur H.	APWL	03/02/87
MONTGOMERY, Leslie D. DETERMINATION OF PERIPHERAL AND SKELETAL CIRCULATORY CHANGES THAT OCCUR IN THE NONHUMAN PRIMATE DURING ENVIRONMENTAL STRESS	KAZARIAN, Leon E.	AFAMRL	12/09/86
OYE, Harald Arnljot THERMODYNAMIC AND TRANSPORT PROPERTIES OF ALUMINIUM HALIDE ROOM TEMPERATURE MELTS	WILKES, John Stuart	FSRL	09/02/86
SUNDARESAN, R. RAPID SOLIDIFICATION ROUTE TITANIUM ALLOYS - ALLOY DESIGN FOR EXTENSION OF APPLICATION RANGE	PROES, Francis H.	AFML	09/12/86
TELLAKULA, R. S. JOINTS IN COMPOSITE LAMINATED STRUCTURES	TSAI, Stephen W.	AFML	03/20/87
VINCENT, Robert A. WINDS AND WAVES IN THE SOUTHERN HEMISPHERE MIDDLE ATMOSPHERE	CARLSON JR, H. C.	AFGL	06/15/87
VON DER LUNE, Oskar COMBINATION OF PRE-DETECTION AND POST-DETECTION IMAGE ENHANCEMENT TECHNIQUES	RADICK, Richard R.	AFGL	11/01/86

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AWARDEE WHO DECLINED

LIN, Jinjou  
SHORT-PERIOD FLUCTUATION OF INFRARED RADIANCE FROM CO<sub>2</sub>, O<sub>3</sub>, H<sub>2</sub>O  
AND NO



PART II

ASSOCIATES WHO TERMINATED  
DURING THE REPORTING PERIOD

BROOKINGS, Jeffrey B. AFAMRL July 8, 1985-September 7, 1986  
Adviser: Dr. Donald A. Topmiller  
Termination Report received; Adviser's Evaluation received

BROST, George A. FJSRL August 31, 1984-August 30, 1986  
Adviser: Dr. Theodore T. Saito  
Termination Report received; Adviser's Evaluation overdue

CARPER, William FJSRL January 1, 1985-August 14, 1986  
Split tenure  
Adviser: Dr. Larry P. Davis  
Termination Report received; Adviser's Evaluation received

ELIEZER, Dan AFML October 29, 1984-April 18, 1986  
Adviser: Dr. Francis H. Froes  
Termination Report received; Adviser's Evaluation overdue

HIGHLAND, Ronald G. AFWL October 15, 1985-December 31, 1986  
Adviser: Dr. Gordon Hager  
Termination Report received; Adviser's Evaluation overdue

KAFKA, Alan L. AFGL July 1, 1985-August 31, 1986  
Adviser: Dr. John J. Cipar  
Termination Report received; Adviser's Evaluation received

MORRIS, Terry L. AFSC December 1, 1984-November 30, 1985  
Inactive Status  
Considered terminated  
Adviser: Dr. William F. Storm  
Termination Report received; Adviser's Evaluation overdue

MULLER, Clifford H. FJSRL October 29, 1985-September 9, 1986  
Adviser: Dr. Albert J. Alexander  
Termination Report received; Adviser's Evaluation overdue

NAM, SangBoo AFAPL January 1, 1984-December 31, 1986  
Adviser: Dr. Charles E. Oberly  
Termination Report received; Adviser's Evaluation overdue

PAL, Satya APL June 24, 1985-June 23, 1986  
Adviser: Dr. Kervyn D. Mach  
Termination Report overdue; Adviser's Evaluation overdue

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RAVINDRAN, Renuka	AFAPL	January 2, 1985-May 31, 1986 Split tenure 9/30/85-5/9/86
Adviser: Dr. Kervyn D. Mach Termination Report received; Adviser's Evaluation <u>overdue</u>		
SEVERYN, K. M.	AMRL	December 14, 1983-January 15, 1986
Adviser: Dr. Melvin E. Andersen Termination Report received; Adviser's Evaluation <u>overdue</u>		
STOFFREGEN, Thomas A.	AFAMRL	September 3, 1985-September 2, 1986
Adviser: Dr. Donald A. Topmiller Termination Report received; Adviser's Evaluation <u>overdue</u>		
TAN, Seng Chuan	AFML	March 28, 1984-March 27, 1986
Adviser: Dr. Stephen W. Tsai Termination Report received; Adviser's Evaluation <u>overdue</u>		
TRAKHOVSKY, Eli	AFGL	August 1, 1984-July 31, 1986
Adviser: Dr. Robert W. Penn Termination Report received; Adviser's Evaluation received		
TURNER, Almon	FJSRL	May 9, 1984-August 11, 1986 Split tenure: 8/8/85-5/12/86
Adviser: Dr. Larry P. Davis Termination Report received; Adviser's Evaluation received		
VENKATARAMAN, S.	AFML	February 1, 1984-January 31, 1986
Adviser: Dr. Theodore Nicholas Termination Report received; Adviser's Evaluation received		

PART III

ASSOCIATES WHO RENEWED DURING THE REPORTING PERIOD

BROOKINGS, Jeffrey B.	AFAMRL	July 8, 1985-September 7, 1986
CZELEN, William E.	AFAMRL	May 16, 1985-May 15, 1987
HIGHLAND, Ronald G.	AFW <sup>6</sup> L	October 15, 1985-December 31, 1986
KAFKA, Alan L.	AFGL	July 1, 1985-August 31, 1986
MARMOLINO, Ciro	AFGL	October 15, 1985-October 14, 1987
NAM, SangBoo	AFAPL	January 1, 1984-December 31, 1986
ROY, Ajit K.	AFML	October 17, 1985-October 16, 1987
STEWART, James J.	AFSRL	August 13, 1984-August 12, 1987
TURNER, Almon	FJSRL	May 9, 1984-August 11, 1987

PART IV

ASSOCIATES ON TENURE AS OF  
JANUARY 1, 1987

CZELEN, William E.	AFAMRL	May 16, 1985-May 15, 1987
Adviser: Dr. C. Hatsell		
EL-HEWIE, Mohamed P.	FJSRL	September 2, 1986-September 1, 1987
Adviser: Dr. Albert J. Alexander		
KATSUYAMA, Ronald M.	AFAMRL	August 26, 1986-August 25, 1987
Adviser: Dr. Rik Warren		
LIN, Pei	AFAPL	June 23, 1986-June 22, 1987
Adviser: Dr. W. M. Roquemore		
MARMOLINO, Ciro	AFGL	October 15, 1985-October 14, 1987
Adviser: Dr. Stephen L. Keil		
MONTGOMERY, Leslie D.	AMRL	December 9, 1986-December 8, 1987
Adviser: Dr. Leon E. Kazarian		
OYE, Harald	FJSRL	September 2, 1986-September 1, 1987
Adviser: Dr. John S. Wilkes		
RAO, K. Prabhakara	AFML	May 7, 1986-May 6, 1987
Adviser: Dr. Stephen W. Tsai		
REA, Michael A.	AFSAM	February 24, 1986-February 23, 1988
Adviser: Dr. R. J. Williams		
ROVANG, John W.	FJSRL	October 1, 1986-September 30, 1987
Adviser: Dr. John S. Wilkes		
ROY, Ajit K.	AFML	October 17, 1985-October 16, 1987
Adviser: Dr. Stephen W. Tsai		
STEWART, James J.	AFSRL	August 13, 1984-August 12, 1987
Adviser: Dr. Larry P. Davis		
SUNDARESAN, Ranganathan	AFML	September 12, 1986-September 11, 1987
Adviser: Dr. Francis H. Proes		

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SUNDER, Ramasubbu . AFML May 19, 1986-May 18, 1987  
Adviser: Dr. Theodore Nicholas

VENKATARAMAN, Ganapathy AFML April 11, 1986-April 10, 1987  
Adviser: Dr. Francis H. Froes

VON DER LUHE, Oskar AFGL November 1, 1986-October 31, 1987  
Adviser: Dr. Richard R. Radick

### REPORTS

Associates are required to submit a progress report six months after the beginning of their tenure. Following is a list of Associates who have submitted a report:

BROOKINGS, Jeffrey B.  
HIGHLAND, Ronald G.  
KAFKA, Alan L.  
MARMOLINO, Ciro  
PAL, Satya  
RAO, K. Prabhakara  
REA, Michael A.  
ROY, Ajit K.  
STOFFREGEN, Thomas A.  
SUNDER, Ramasubbu  
TRAKHOVSKY, Eli

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